

The Comparative Research of Several Commonly Used Financing Modes on Highway Project Financing

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Abstract

The article analyzes the definition and basic ideas of several commonly used financing modes. And the comparative research of application characteristics and limitations of BOT, BT and TOT financing modes are studied.

Keywords

Highway Project; Financing Model; Application Characteristics; Limitation.

1. Introduction

Highway project as a Quasi-public infrastructure construction project, the construction is particularly important to promote economic development and social progress. In China, the construction of highway project funding is heavily dependent on the state financial subsidies, the local government investment and bank lending. Thus, for a long time, in our country it is established the highway investment mechanism of "the loans to build roads, loan, and rolling development" which promote the development of the highway project to a certain extent. But with the increase of demand of highway project and construction funding gap, the traditional way of investment reflects shortcomings such as examination and approval procedure complex, debt pressure and so on. The shortcomings are not only limits the highway construction scale, but also restricted the comprehensive promotion of quality of highway project.

Based on this, a lot of new financing pattern is applied to the construction of highway project, the typical mainly are BOT, BT and TOT financing modes. Compared with the traditional way of investment and financing, these financing modes have significant advantages, such as investment process, high efficiency and so on. The application of all kinds of financing modes, however, have different characteristics and applicability. So the article analyzed and studied the characteristics and applications of three kinds of commonly used financing model of highway project. It provides a reference for solving the problem of highway project construction fund.

2. The definition and basic ideas of highway project financing model commonly used

2.1 BOT financing mode

(1) Definition

BOT mode, namely the Build - Operate - Transfer mode, which is the government through the concession agreement to award the right of project construction to the project company set up by investor. Then the project company is responsible for the project investment and financing, construction, operation and maintenance. When the time to the concession period, the project is handed over to the government free of charge from the project company.

(2) Basic ideas

The basic idea of the BOT mode is by a consortium of state or the investor as the originator of the project, getting concession of some infrastructure from a government or affiliated institutions; Then, by its independently or with other parties to form the project company is responsible for construction and operation of the project. In the project charter period, the project company get benefit through

the project operating which will be used to pay debt in the future. At last, the whole project should be transferred to the host country government by project company in the form of free of charge.

2.2 BT financing mode

(1) Definition

BT mode, namely the Build - Transfer mode, which is the government choose the project company, then within the limit in the charter, the project company raise the funds and build the project. After the project completed, the project company must give the oversight of the project to government immediately. At the same time, the government should pay for the money which arranged before to the project company one-time or installment.

(2) Basic ideas

The basic idea of the BT mode is the governmental or a unit by authorized the government through adopting tender method or direct way to choose investors to invest the construction. When the project completed and acceptance received, investors give the project back to the government. At the same time, the government pay construction investment and investment income for investors through a one-time or installment payment according to the contract appointed before.

2.3 TOT financing mode

(1) Definition

TOT mode, namely the Transfer-Operate-Transfer mode, which is the investor buy an existing property rights and management of the project from the government. Within the time agreed in the contract, the investor get all the investment back and get the corresponding reasonable return by operating the existing project. Then the investor transfer the property rights and management rights to the government for free.

(2) Basic ideas

The basic idea of the TOT mode is that the project is invested by the government first. Then the project which have been put into production will of time hand over to operate capital strength of the investors in a certain period. At the same time, the government raise fund from investors all at once, which will be used to build other new project. Also, investors get profit through the earnings of the project in the future. At last, investors return the project free of charge to the government.

3. The comparative study of Highway project financing model commonly used

3.1 The application characteristic of BOT, BT, TOT financing mode

From all kinds of financing mode of reducing the pressure on government finances, the control of highway project, the situation of the use of private capital, improving the quality of highway engineering, BOT, BT, TOT has its own application characteristics.

3.1.1 The application characteristics of BOT financing mode

(1) Reduce the government's financial pressure effectively

In BOT mode, the government will try its best to coordinate all partnerships. The behavior can provide investors with convenient and reduce risk which make investors have more confidence and attract investors to the project successfully. Thus, the debt pressure is from government to the investor.

(2) The government is no control of the highway project

BOT highway project is considered to be a project of the privatization in concession period from the essence. So during the operational phase, the ownership of the project belongs to the investor which weakened the government's control of project, even without control.

(3) Provide good application of private capital

BOT model can be solved the problem of the highway project construction fund shortage by making full use of private capital. It solves the civil social capital through broader investment channels to increase the utilization ratio of capital commendably.

3.1.2 The application characteristics of BT financing mode

(1) Reduce the government's financial pressure effectively

BT mode can reduce the government's financial pressure through guiding the foreign capital and social funds to flow to the public infrastructure and carrying out staging the buy-back. The so-called staging buy-back is that the government pay for the investors for many times after building the project which makes up the funds supply gap of government.

(2) The government has the control of the highway project

The investor of BT mode highway project has the ownership of the project during the construction period. In this period, although the government does not has the control, but it still has the right of supervision and negative right. This can prevent the state property from losing well.

(3) Improve the utilization rate of private capital

In general, market operation stages risk is big to the investor, but BT financing mode avoid the project operation stage exactly. So it is good to reduce the risk of investors so that it is conducive to attract private capital and foreign capital investment, improving the utilization efficiency of social idle resources

3.1.3 The application characteristics of TOT financing mode

(1) Broaden financing object and reduce the government's financial pressure

For the government, the financing objects become widely. By using TOT mode, except some powerful companies, some other financial institutions, fund and private capital also have chance to participate in investment. It is to the benefit of vitalizing national asset to reduce the government's financial pressure

(2) The government has the control of the highway project from start to the end

In TOT mode, the investor just need to buy a part or all of the project assets management rights and property rights. Though it also has transferred the property rights, the government's control of the project still remains the same.

(3) Benefit to realize using the fund rolling

TOT mode can realize the fund of "one input, use rolling", it is benefit to the new project which economic development urgently needed early into the construction and operation to improve the development of regional economic.

3.2 The limitations of BOT, BT, TOT financing mode

Recovery from the financing model applicability, investors' benefit and the cost of financing, BOT, BT and TOT financing model has different limitations

3.2.1 The limitations of BOT financing mode

(1) Limited application

BOT model have limitations of application. First, this mode is suitable for operational highway projects which have high financial earnings. Because during the BOT project, the investor need recovery the capital and profits through the project; Then, it is suitable for national key projects which have enough scale or the project having a difficult technology. If a project without enough scale, it may probably make the high cost of financing instead, resulting in a decline in revenue. It is nothing worth that some important project which relate to the national economy shall not adopt the BOT mode.

(2) Interests of payback period is long and the risk is big

In the BOT highway project, during the operation, the investor take to the way of user fees to pay down debt and obtain profits. Under normal conditions, profit-making highway project profit is affected by many factors so that the risk is high which assumed by investors, For example, the traffic volume not exceeding the expectation, expansion of the currency can lead to a longer payback period, even cannot reach the expected return on investment.

(3) High cost of financing

Under normal conditions, the BOT highway project has complex link, more involved department and wide range from bidding, design and construction period to the operation and transition period so that it makes the project has high financing cost, even higher than bank loans.

3.2.2 The limitations of BOT financing mode**(1) Limited application**

The BT highway project does not involve the operation stage, this behavior suggests that investors get profit not from the project future earnings which limit the scope of application of BT mode. Thus, the BT mode is more suitable for the project with a strong public welfare nature and some non-operating highway projects.

(2) Small investment risk and the interests of the recovery depends on the credit guarantee

In the BT highway project, Investors do not assume the management risk of the project operation stage which makes investment risk relatively smaller. The interests of the recovery depends on the credit guarantee means the investor get benefit should depend on the ability of the government to pay.

(3) High cost of financing

The early preparations of BT financing mode have a long negotiation and a big consumption because of involving government approval, the examination and approval, as well as foreign exchange guarantees. All links with high complexity, difficult operation lead to the cost of financing increasing. Although it seems like a high cost of financing, but compared with the BOT financing mode, its financing cost is relatively small.

3.2.3 The limitations of TOT financing mode**(1) TOT noteworthy problems in the application**

TOT is different from other kinds of financing mode. If the TOT mode is used, the government should pay special attention to the problem of the reasonable valuation and price of the transfer project. Generally speaking, investors are willing to buy the project in TOT mode because they focus on the profitability of the project in the area. So investors may demand the government's commitment to a period of time not to repeat construction similar facilities inside the region in order to ensure their own interests The commitment which may lead investors to monopolistic behavior.

(2) The interests of the investors recycling more stable

Compared with other financing model, TOT highway project investors interests in recycling is significantly different. It is not need to depend on the new project which needs to finance or the future benefits of the new project. Instead, it relies on the ability of the project in a certain period of future which has already got the operating concessions. So, it has stable earnings relatively.

(3) Low cost of financing

Compared with other three modes, One hand, the TOT mode involve less link and he construction of the new project and operating time is greatly in advance which make negotiation, evaluation of incidental cost are greatly reduced; On the other hand, Investors buy a project with steady income and lower risk. These two reasons will make the expected rate of return of investors reduced reasonably. As a result, Project financing cost will be down.

4. Highway project financing model applicability analysis in different economic development area**4.1 BOT financing mode——more suitable for the economic developed areas**

(1) In economically developed areas, In the process of project implementation and deal execution, the area can get advanced technology, information and complete sets of equipment from foreign country and can take advantage of this opportunity to absorb many advanced operation and management experience. The advantages of BOT mode is a good way to promote the economic

development of the developed region and make the highway project construction getting better and better,

(2) In economically developed areas, the highway projects always have a stable traffic flow to generate stable and direct economic benefits. At this point, the BOT mode can ensure that the investor in the project operation stages have stable cash flows which is enough to pay down debt and obtain profits to guarantee the economic interests.

4.2 BT financing mode——more suitable for the important and non-operating highway project

It is most important to ensure that state property is not loss for the highway project which relate to the national economy and the people's livelihood. This demands that the government should always have the control of the project. So BT mode is the best choice. But for investors, because of unable to recover the cost and profit directly from the project itself, the risk of investors' benefit may increase. Thus, investors should consider the pay ability of the government, credit guarantee and risk problems in advance when choosing the BT mode to build the highway project.

4.3 TOT financing mode——more suitable for economic less-developed areas

Because of the disadvantages of the government finance, geographical location and industrial structure of economic less developed areas, we can consider to use TOT financing mode combining with the characteristics of the application of TOT mode.

(1) TOT mode can realize the rational allocation of resources. To a government with a weak economic power, it can get more fund to the new highway project which needs to build immediately through the sale of existing infrastructure by TOT mode. Also, it can greatly reduce the pressure of finance, and vitalize inventory of state-owned assets.

(2) Through TOT mode can not only make the government get new project construction funds, but also conducive to the introduction of new technology and high management level. It is benefit for economic less-developed areas to develop highway project fast and help the government solve the problem of building funds.

5. Conclusion

(1) The rapid development of highway project makes the application of BOT, BT and TOT financing mode is increasingly important day after day. The application characteristics and applicability of different financing mode is not the same.

(2) In economically developed areas, Compared with the use of project financing abundant construction funds, The construction of highway project are more focused on the introduction of advanced technology and improving the management level, so the BOT financing mode is more suitable.

(3) For economic less developed areas, the local economy and government finances is weak. Thus these areas focus more on solving the problem of funding sources, broadening the financing channels and improving the utilization rate of capital. So the TOT financing mode is more suitable.

(4) At the same time, BT financing mode can both use in economically developed areas and economic less developed areas. It is nothing worth that BT mode just suitable for the non-operating highway project.

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